

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
GUIDANCE
SCOPE OF WORK (SOW) FOR A CORRECTIVE ACTION
STUDY**

BER POLICY # BER-RS-019

DATE: 1991

Revised: May 23, 1996

Revised: March 29, 2001

PAGES: 3

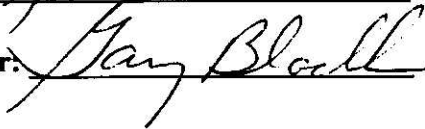
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Reviser: Rob Elder

Reviser: Rick Bean

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ORIGINATOR

Originator: Rick Bean

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The Corrective Action Study (CAS) provides an objective and standardized process for evaluating, comparing, and contrasting potential corrective action alternatives. The primary objectives of the Corrective Action Study (CAS) are described as follows:

- 1) to evaluate the feasibility, effectiveness, and cost of at least two (2) potential remedial actions based on the findings of the Comprehensive Investigation (CI), and to compare and contrast those alternatives to each other and the "no action" alternative;
- 2) to recommend and justify a specific corrective action for the site; and
- 3) to determine the health and environmental effects of the remedial action.

This Scope of Work outlines activities to be completed as part of the CAS. Submission of a CAS Work Plan may be necessary if additional data gathering is necessary following completion of the CI in order to evaluate potential corrective action alternatives.

The Scope of Work shall at a minimum include the following components:

1.0 CAS SCHEDULE

Submission of a schedule which summarizes the CAS tasks, provides a date for the completion of the CAS and submission of the CAS report, and briefly describes the corrective actions to be evaluated during the CAS.

2.0 EVALUATION OF CORRECTIVE ACTIONS

The Corrective Action Study is the process through which detailed assessments of at least two plausible corrective action alternatives and the "no action" alternative are performed. The evaluation must include: 1) a description of the contaminants of concern within each environmental media; 2) an identification of all real and potential human and environmental targets and an evaluation of all direct and indirect exposure

pathways; 3) a description of the site-specific corrective action goals; 4) treatability studies for corrective actions considered innovative or unproven; and 5) a detailed individual and comparative analysis of each of the proposed corrective actions, and the "no action" alternative, to evaluate their ability to satisfy the following criteria:

- a) overall protection of human health and environment;
- b) compliance with Federal and State applicable, or relevant and appropriate requirements (ARARs);
- c) long-term effectiveness and permanence;
- d) reduction of toxicity, mobility and volume of contamination through treatment;
- e) short-term effectiveness;
- f) implementability;
- g) cost; and
- h) community acceptance.

For potential corrective action alternatives that would not result in short-term restoration of the site, the evaluation of those alternatives should also address the time frame in which the alternative might reasonably be expected to achieve the corrective action goals for the site.

3.0 RECOMMENDATION OF A CORRECTIVE ACTION

The detailed evaluation of potential corrective action alternatives shall provide the basis for recommending and supporting a specific corrective action or group of corrective actions for the site, which satisfies the requirements as defined in Section 2.0.

4.0 CAS REPORT

The Corrective Action Study Report shall include: 1) a brief summary of the findings of previous environmental investigations, including a risk assessment, if performed; 2) a description of the site-specific corrective action goals; 3) a detailed description of each corrective action alternative evaluated, including the "no action" alternative; 4) a detailed discussion of each corrective action alternative evaluated in the context of satisfying the criteria defined in Section 2.0; 5) a recommendation for corrective action at the site; and 6) an Appendix containing any background information or literature which was used to evaluate each corrective action alternative.

KDHE/BER strongly recommends that any persons performing Comprehensive Investigation and/or Corrective Action Study activities with State of Kansas oversight obtain and familiarize themselves with the following documents. These documents provide guidance for the preparation, implementation, and reporting of CI/CAS activities, and constitute much of the technical basis on which KDHE/BER reviews work plans, reports, and other submittals related to the CI/CAS process. Information on obtaining the EPA documents is available on-line at

<http://www.epa.gov/epahome/publications.htm>. Information on the State Cooperative Program administered by the Remedial Section of the Bureau of Environmental Remediation can be found on-line at the KDHE web site, <http://www.kdhe.state.ks.us/ber/remedial/sru.html>.

EPA/600/R-98/018 February 1998; "EPA Guidance for Quality Assurance Project Plans (EPA QA/G-5)."

EPA/540/G-89/004 (OSWER Directive 9355.3-01) October 1988; "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA."

EPA/600/R-96/055 August 2000; "Guidance for the Data Quality Objectives Process (EPA QA/G-4)."

EPA/540/1-89/002 December 1989; "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part A)."

EPA/540/R-92/003 December 1991; "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals)."

"Risk-Based Standards for Kansas (RSK Manual)", March 1, 2003 (available from KDHE/BER).